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Sequence Listing could not be accepted due to errors.
See attached Validation Report.
If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).
Reviewer: Anne Corrigan
Timestamp: Thu Jun 07 18:51:22 EDT 2007

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Reviewer Comments:

<210> 21
<211> 717
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1)..(717)
<223> Lysine decarboxylase

The above <223> explanation of "<213> Artificial Sequence" is insufficient: please give source of the genetic material.

<210> 22
<211> 238
<212> PRT
<213> Artificial Sequence
<220>
<223> Artificial

The "<223> Artificial" explanation for <213> Artificial Sequence is insufficient: please give source of genetic material.

Application No: 10539954 Version No: 2.0

Input Set:

Output Set:

Started: 2007-06-07 13:33:41.600
Finished: 2007-06-07 13:33:46.672
Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 72 ms
Total Warnings: 11
Total Errors: 1
No. of SeqIDs Defined: 88
Actual SeqID Count: 88

| Error code | Error Description |
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| W 213 | Artificial or Unknown found in <213> in SEQ ID (21) |
| E 224 | <220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (21) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (22) |
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| W 213 | Artificial or Unknown found in <213> in SEQ ID (59) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (60) |

SEQUENCE LISTING

<110> Schmitz, Oliver
Puzio, Piotr
Blau, Astrid
Looser, Ralf
Wendel, Birgit
Kamlage, Beate
Plesch, Gunnar

<120> Method for Producing Amino Acids

<130> 13195-00006-US

<140> 10539954

<141> 2005-06-17

<150> PCT/EP2003/014649

<151> 2003-12-19

<150> DE 102 61 188.2

<151> 2002-12-20

<160> 88

<170> PatentIn version 3.3

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<222> (1)..(1164)

<223> Threonine aldolase

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Leu Arg Ser Asp Thr Phe Thr Thr Pro Thr Ala Glu Met Met Glu Ala
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gct tta gag gcc tct atc ggt gac gct gtc tac ggt gaa gat gtt gac 144
Ala Leu Glu Ala Ser Ile Gly Asp Ala Val Tyr Gly Glu Asp Val Asp
35 40 45

acc gtt agg ctc gaa cag acc gtt gcc cgc atg gct ggc aaa gaa gca 192
Thr Val Arg Leu Glu Gln Thr Val Ala Arg Met Ala Gly Lys Glu Ala
50 55 60

ggt ttg ttc tgt gtc tct ggg act ttg tcc aac cag att gcc atc aga 240
Gly Leu Phe Cys Val Ser Gly Thr Leu Ser Asn Gln Ile Ala Ile Arg

| 65 | 70 | 75 | 80 | |
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| act cac ttg atg caa cct cca tac tct att cta tgt gat tac agg gct | | | | 288 |
| Thr His Leu Met Gln Pro Pro Tyr Ser Ile Leu Cys Asp Tyr Arg Ala | | | | |
| 85 | 90 | 95 | | |
| cac gtt tac act cac gaa gcc gct gga ctg gcg atc ttg tct caa gcg | | | | 336 |
| His Val Tyr Thr His Glu Ala Ala Gly Leu Ala Ile Leu Ser Gln Ala | | | | |
| 100 | 105 | 110 | | |
| atg gtg gtt cct gtg gtt cct tcc aac ggt gac tac ttg acc ttg gaa | | | | 384 |
| Met Val Val Pro Val Val Pro Ser Asn Gly Asp Tyr Leu Thr Leu Glu | | | | |
| 115 | 120 | 125 | | |
| gac atc aag tca cac tac gtc cca gac gac ggt gat att cac ggt gcc | | | | 432 |
| Asp Ile Lys Ser His Tyr Val Pro Asp Asp Gly Asp Ile His Gly Ala | | | | |
| 130 | 135 | 140 | | |
| ccc acc aga ttg att tct ctg gaa aac act tta cac ggt att gtt tat | | | | 480 |
| Pro Thr Arg Leu Ile Ser Leu Glu Asn Thr Leu His Gly Ile Val Tyr | | | | |
| 145 | 150 | 155 | 160 | |
| cca ttg gaa gaa ctg gtc cgc atc aaa gct tgg tgt atg gaa aat ggt | | | | 528 |
| Pro Leu Glu Glu Leu Val Arg Ile Lys Ala Trp Cys Met Glu Asn Gly | | | | |
| 165 | 170 | 175 | | |
| ctc aaa cta cat tgt gac ggt gcc aga atc tgg aat gcc gct gca caa | | | | 576 |
| Leu Lys Leu His Cys Asp Gly Ala Arg Ile Trp Asn Ala Ala Ala Gln | | | | |
| 180 | 185 | 190 | | |
| tct ggc gtg cca tta aag caa tat ggg gaa atc ttc gac tcc atc tcc | | | | 624 |
| Ser Gly Val Pro Leu Lys Gln Tyr Gly Glu Ile Phe Asp Ser Ile Ser | | | | |
| 195 | 200 | 205 | | |
| atc tgt cta tcc aag tct atg ggt gct cct att ggg tcc gtc ttg gtt | | | | 672 |
| Ile Cys Leu Ser Lys Ser Met Gly Ala Pro Ile Gly Ser Val Leu Val | | | | |
| 210 | 215 | 220 | | |
| ggg aac ctt aag ttt gtc aag aag gcc acc cat ttc aga aaa caa caa | | | | 720 |
| Gly Asn Leu Lys Phe Val Lys Lys Ala Thr Phe Arg Lys Gln Gln | | | | |
| 225 | 230 | 235 | 240 | |
| ggt ggt ggt att aga caa tct ggt atg atg gct aga atg gct ctt gta | | | | 768 |
| Gly Gly Ile Arg Gln Ser Gly Met Met Ala Arg Met Ala Leu Val | | | | |
| 245 | 250 | 255 | | |
| aac atc aac aac gat tgg aag tcc caa ttg ctg tac tcg cac tct ttg | | | | 816 |
| Asn Ile Asn Asn Asp Trp Lys Ser Gln Leu Leu Tyr Ser His Ser Leu | | | | |
| 260 | 265 | 270 | | |
| gct cat gaa tta gcc gaa tat tgt gag gca aag ggc atc ccg cta gag | | | | 864 |
| Ala His Glu Leu Ala Glu Tyr Cys Glu Ala Lys Gly Ile Pro Leu Glu | | | | |
| 275 | 280 | 285 | | |
| tct cca gca gac acc aac ttt gtc ttt att aac ctg aag gcc gct aga | | | | 912 |
| Ser Pro Ala Asp Thr Asn Phe Val Phe Ile Asn Leu Lys Ala Ala Arg | | | | |
| 290 | 295 | 300 | | |

| | | | |
|---|-----|------|-----|
| atg gac cca gat gtc ctt gtt aag aag ggt ttg aag tac aac gtt aag | | 960 | |
| Met Asp Pro Asp Val Leu Val Lys Lys Gly Leu Lys Tyr Asn Val Lys | | | |
| 305 | 310 | 315 | 320 |
| cta atg ggt ggt aga gtc tcg ttc cac tat caa gtc acc aga gat act | | 1008 | |
| Leu Met Gly Gly Arg Val Ser Phe His Tyr Gln Val Thr Arg Asp Thr | | | |
| 325 | 330 | 335 | |
| ttg gaa aaa gtc aaa ttg gcc atc tcc gag gcc ttc gac tat gct aaa | | 1056 | |
| Leu Glu Lys Val Lys Leu Ala Ile Ser Glu Ala Phe Asp Tyr Ala Lys | | | |
| 340 | 345 | 350 | |
| gaa cat cct ttc gac tgt aac gga cct acc cag att tac cgt agt gaa | | 1104 | |
| Glu His Pro Phe Asp Cys Asn Gly Pro Thr Gln Ile Tyr Arg Ser Glu | | | |
| 355 | 360 | 365 | |
| tcc acc gag gtc gac gtt gat ggc aac gct atc cgc gaa ata aaa acc | | 1152 | |
| Ser Thr Glu Val Asp Val Asp Gly Asn Ala Ile Arg Glu Ile Lys Thr | | | |
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| tac aaa tac tga | | 1164 | |
| Tyr Lys Tyr | | | |
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| | | | |
| Leu Arg Ser Asp Thr Phe Thr Thr Pro Thr Ala Glu Met Met Glu Ala | | | |
| 20 | 25 | 30 | |
| | | | |
| Ala Leu Glu Ala Ser Ile Gly Asp Ala Val Tyr Gly Glu Asp Val Asp | | | |
| 35 | 40 | 45 | |
| | | | |
| Thr Val Arg Leu Glu Gln Thr Val Ala Arg Met Ala Gly Lys Glu Ala | | | |
| 50 | 55 | 60 | |
| | | | |
| Gly Leu Phe Cys Val Ser Gly Thr Leu Ser Asn Gln Ile Ala Ile Arg | | | |
| 65 | 70 | 75 | 80 |
| | | | |
| Thr His Leu Met Gln Pro Pro Tyr Ser Ile Leu Cys Asp Tyr Arg Ala | | | |
| 85 | 90 | 95 | |
| | | | |
| His Val Tyr Thr His Glu Ala Ala Gly Leu Ala Ile Leu Ser Gln Ala | | | |
| 100 | 105 | 110 | |
| | | | |
| Met Val Val Pro Val Val Pro Ser Asn Gly Asp Tyr Leu Thr Leu Glu | | | |
| 115 | 120 | 125 | |
| | | | |
| Asp Ile Lys Ser His Tyr Val Pro Asp Asp Gly Asp Ile His Gly Ala | | | |

| | | |
|---|-----|-----|
| 130 | 135 | 140 |
| Pro Thr Arg Leu Ile Ser Leu Glu Asn Thr Leu His Gly Ile Val Tyr | | |
| 145 | 150 | 155 |
| 155 | | 160 |
| Pro Leu Glu Glu Leu Val Arg Ile Lys Ala Trp Cys Met Glu Asn Gly | | |
| 165 | 170 | 175 |
| Leu Lys Leu His Cys Asp Gly Ala Arg Ile Trp Asn Ala Ala Ala Gln | | |
| 180 | 185 | 190 |
| Ser Gly Val Pro Leu Lys Gln Tyr Gly Glu Ile Phe Asp Ser Ile Ser | | |
| 195 | 200 | 205 |
| Ile Cys Leu Ser Lys Ser Met Gly Ala Pro Ile Gly Ser Val Leu Val | | |
| 210 | 215 | 220 |
| Gly Asn Leu Lys Phe Val Lys Lys Ala Thr His Phe Arg Lys Gln Gln | | |
| 225 | 230 | 235 |
| 240 | | |
| Gly Gly Gly Ile Arg Gln Ser Gly Met Met Ala Arg Met Ala Leu Val | | |
| 245 | 250 | 255 |
| Asn Ile Asn Asn Asp Trp Lys Ser Gln Leu Leu Tyr Ser His Ser Leu | | |
| 260 | 265 | 270 |
| Ala His Glu Leu Ala Glu Tyr Cys Glu Ala Lys Gly Ile Pro Leu Glu | | |
| 275 | 280 | 285 |
| Ser Pro Ala Asp Thr Asn Phe Val Phe Ile Asn Leu Lys Ala Ala Arg | | |
| 290 | 295 | 300 |
| Met Asp Pro Asp Val Leu Val Lys Lys Gly Leu Lys Tyr Asn Val Lys | | |
| 305 | 310 | 315 |
| 320 | | |
| Leu Met Gly Gly Arg Val Ser Phe His Tyr Gln Val Thr Arg Asp Thr | | |
| 325 | 330 | 335 |
| Leu Glu Lys Val Lys Leu Ala Ile Ser Glu Ala Phe Asp Tyr Ala Lys | | |
| 340 | 345 | 350 |
| Glu His Pro Phe Asp Cys Asn Gly Pro Thr Gln Ile Tyr Arg Ser Glu | | |
| 355 | 360 | 365 |
| Ser Thr Glu Val Asp Val Asp Gly Asn Ala Ile Arg Glu Ile Lys Thr | | |
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| Tyr Lys Tyr | | |
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35 40 45

Val Leu Gly Tyr Asp Pro Thr Ala Phe Arg Leu Glu Thr Glu Met Ala
50 55 60

Lys Thr Met Gly Lys Glu Ala Ala Leu Phe Val Pro Ser Gly Thr Met
65 70 75 80

Gly Asn Leu Val Ser Val Leu Val His Cys Asp Val Arg Gly Ser Glu
85 90 95

Val Ile Leu Gly Asp Asn Cys His Ile Asn Ile Phe Glu Asn Gly Gly
100 105 110

Ile Ala Thr Ile Gly Gly Val His Pro Arg Gln Val Lys Asn Asn Asp
115 120 125

Asp Gly Thr Met Asp Ile Asp Leu Ile Glu Ala Ala Ile Arg Asp Pro
130 135 140

Met Gly Glu Leu Phe Tyr Pro Thr Thr Lys Leu Ile Cys Leu Glu Asn
145 150 155 160

Thr His Ala Asn Ser Gly Gly Arg Cys Leu Ser Val Glu Tyr Thr Asp
165 170 175

Arg Val Gly Glu Leu Ala Lys Lys His Gly Leu Lys Leu His Ile Asp
180 185 190

Gly Ala Arg Ile Phe Asn Ala Ser Val Ala Leu Gly Val Pro Val Asp
195 200 205

Arg Leu Val Gln Ala Ala Asp Ser Val Ser Val Cys Leu Ser Lys Gly
210 215 220

Ile Gly Ala Pro Val Gly Ser Val Ile Val Gly Ser Lys Asn Phe Ile
225 230 235 240

Ala Lys Ala Arg Arg Leu Arg Lys Thr Leu Gly Gly Met Arg Gln
245 250 255

Ile Gly Leu Leu Cys Ala Ala Leu Val Ala Leu Gln Glu Asn Val
260 265 270

Gly Lys Leu Glu Ser Asp His Lys Lys Ala Arg Leu Leu Ala Asp Gly
275 280 285

Leu Asn Glu Val Lys Gly Leu Arg Val Asp Ala Cys Ser Val Glu Thr
290 295 300

Asn Met Val Phe Ile Asp Ile Glu Glu Gly Thr Lys Thr Arg Ala Glu
305 310 315 320

Lys Ile Cys Lys Tyr Met Glu Glu Arg Gly Ile Leu Val Met Gln Glu
325 330 335

Ser Ser Ser Arg Met Arg Val Val Leu His His Gln Ile Ser Ala Ser
340 345 350

Asp Val Gln Tyr Ala Leu Ser Cys Phe Gln Gln Ala Leu Ala Val Lys
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Gly Val Gln Lys Glu Met Gly Asn
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35 40 45

Gly Arg Asp Pro Ser Cys Phe Arg Leu Glu Thr Glu Met Ala Lys Ile
50 55 60

Leu Gly Lys Glu Gly Ala Leu Phe Val Pro Ser Gly Thr Met Ala Asn
65 70 75 80

Leu Ile Ser Val Leu Val His Cys Asp Ile Arg Gly Ser Glu Val Ile
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Thr Leu Gly
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20 25 30

Asn Lys Ala Lys Leu Ala Asp Gly Leu Asn Glu Ile Lys Gly Leu
35 40 45

Arg Val Asp Ile Ser Ser Val Glu Thr Asn Ile Ile Tyr Val Glu Val
50 55 60

Glu Glu Gly Ser Arg Ala Thr Ala Ala Lys Leu Cys Lys Asp Leu Glu
65 70 75 80

Asp Tyr Gly Ile Leu Leu Met Pro Met Gly Ser Ser Arg Leu Arg Ile
85 90 95

Val Phe His His Gln Ile Ser Ala Ser Asp Val Gln Tyr Ala Leu Ser
100 105 110

Cys Phe Gln Gln Ala Val Asn Gly Val Arg Asn Glu Asn Gly Asn
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20 25 30

Gly Arg Cys Leu Ser Val Glu Tyr Thr Asp Arg Val Gly Glu Leu Ala
35 40 45

Lys Lys His Gly Leu Lys Leu His Ile Asp Gly Ala Arg Ile Phe Asn
50 55 60

Ala Ser Val Ala Leu Gly Val Pro Val Asp Arg Leu Val Gln Ala Ala
65 70 75 80

Asp Ser Val Ser Val Cys Leu Ser Lys Gly Ile Gly Ala Pro Val Gly
85 90 95

Ser Val Ile Val Gly Ser Lys Asn Phe Ile Ala Lys Ala Arg Arg Leu
100 105 110

Arg Lys Thr Leu Gly Gly Met Arg Gln Ile Gly Leu Leu Cys Ala
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His Lys Lys
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Leu Gly Val Pro Val His Arg Leu Val Lys Ala Ala Asp Ser Val Ser
35 40 45

Val Cys Ile Ser Lys Gly Leu Gly Ala Pro Val Gly Ser Val Ile Val
50 55 60

Gly Ser Thr Ala Phe Ile Glu Lys Ala Lys Ile Leu Thr Lys Thr Leu
65 70 75 80

Gly Gly Gly Met Arg Gln Val Gly Ile Leu Cys Ala Ala Tyr Val
85 90 95

Ala Val Arg Asp Thr Val Gly Lys Leu Ala Asp Asp His Arg Arg Ala
100 105 110

Lys Val Leu Ala Asp Gly Leu Lys Lys Ile Lys His Phe Arg Val Asp
115 120 125

Thr Thr Ser Val Glu Thr Asn Met Val Phe Phe Asp Ile Val Asp Ser
130 135 140

Arg Ile Ser Pro Asp Lys Leu Cys Gln Val Leu Glu Gln Arg Asn Val

